

Coercive Narratives, Motivation and Role Playing in Virtual Worlds

Jacquelyn F. MORIE

Institute for Creative Technologies, University of Southern California *
Marina Del Rey, CA 90292, USA

ABSTRACT

The leap from a constrained, linear story line to a complete world where participants have free will is substantial, with many associated possibilities and questions. The concept of interactive narrative has been explored for the past twenty years yet we seem no closer to formulating a cohesive grammar for such works. Open-ended virtual worlds are the most challenging of the new media in this respect. Can constrained authorship and free-will experience coexist? How does personal motivation fit in with the story and the role that participants are expected to fill? At the University of Southern California's Institute for Creative Technologies (ICT), I am exploring design techniques to create worlds that take advantage of expectations, interest and natural world interactions to help structure a "narrative" both within and after participation in an open-ended Virtual Environment (VE). I intend to take advantage of a participants' natural tendency to prefer interaction when possible, resulting in worlds that form their meaning out of intention and interaction – of the author as well as the participant – in a mutual form of authorship. I hope this work will expand the potential of experience within virtual worlds.

Keywords: Immersive Environments, Virtual Environments, Interactive Narrative, Virtual Reality; Interactive Design, Grammars

1. INTRODUCTION

Digital technologies have provided untapped new realms for creators. These unfolding spheres have stimulated fresh approaches to the creative process. New media tend to build on previously accepted forms, especially in their formative periods. Bolter and Grusin call this process of formulating creative ideas through homogenization of previous forms *remediation*. [1] Eventually, however, a dialogue initiates among these borrowed forms that leads to something unique. This dialogue eventually motivates a new language – a specialized grammar – fine tuned to the emerging nature of the new medium. Such a grammar can take advantage of the distinctive qualities and potentials expressed or nascent within the media.

1

Any unique grammar is an underlying structure for design. We will examine some of the emerging design structures for virtual environments (VEs), described here as three-dimensional worlds that can be experienced in place of the real world by substituting normal sensory inputs with those generated via the computer. We will approach this examination from several vantage points:

- from narrative media constructs, (what we put into the world),
- from the standpoint of motivation and purpose (why the world was created and why we are in that world),
- from the position of who we are in that world (role playing)
- from the view of expectations (what we want to get out of the world),

I will explore some of the concerns raised by each of these points, followed by an initial formulation of concepts designers can use to promote interactions that provide engaging and compelling experiences. I will focus primarily on my ideas of coercive narrative as it applies to the design process. I use the term narrative in its loosest sense here, as a means to have someone go through a constrained set of experiences. Examples from both existing VEs as well as ongoing efforts at ICT will illustrate some of the possibilities emerging from this work.

2. TRADITIONAL NARRATIVES AND IMMERSIVE EXPERIENCES

There has been much interest in how traditional narrative structures such as theater, films, and written stories can be mapped onto the interactive realm. [2] [3] However, books, films and other narrative structures are based on several mutually beneficial acculturation and cognitive aspects, which make the transfer of these traditional methods to VEs difficult. These media rely more on mental constructs derived from life experience and allow a natural correspondence between what we know and what we are listening to or watching. The basic point of these narratives is to tell a story, which is understood simply because this "story tellers" structure has been used since the beginnings of

*This paper was developed with funds of the Department of the Army under contract number DAAD 19-99-D-0046. Any opinions, findings and conclusions or recommendations expressed in this paper are those of the

authors and do not necessarily reflect the views of the Department of the Army.

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2002	2. REPORT TYPE		3. DATES COVERED 00-00-2002 to 00-00-2002		
4. TITLE AND SUBTITLE Coercive Narratives, Motivation and Role Playing in Virtual Worlds			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S)			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) University of California, Institute for Creative Technologies, 13274 Fiji Way, Marina del Rey, CA, 90292			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 7	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

language. We do not, however, have this historical advantage when dealing with VEs.

Due to various factors (e. g. technological limits, lack of critical mass in immersive environments) acculturation of the type we experience in traditional media does not always follow through in VEs, which are generally abstractions of a potentially real space. The sparseness of other sensory inputs in reading forces our minds to build a cognitive world within, but very related to, the one in which we live. We build this imaginary world by referencing what we know – by comparison or contrast. In film we are presented with visuals and sounds that create the world for the viewer. Photographic realism, whether live action or fabricated through the magic of special effects, presents a familiar and believable world. Realism, however, is certainly not the primary factor in creating believable worlds in narrative media. Animations are not often photo realistic but do provide an acceptable abstraction of known imagery – acceptable enough to stand in for reality.

Most importantly we understand these media are designed to tell a story. But what is the point of a good VE? Is it the same as the media mentioned above, or is there a difference? This leads to the question of motivation for VEs – why are they created and why are we there. Telling a story may be only one of the reasons.

3. MOTIVATION

There are many reasons to explore virtual worlds. From entertainment to education the main draw is the ability to go somewhere we have never been before. VEs provide the opportunity for a radically new or a very familiar experience. Hopefully the perceived reason for being there coincides with the intended purpose of the scenario. VEs can be developed to provide adventure, escapism, entertainment or even a window into other people's lives. (While there are not yet examples of the latter, these VEs could function much like soap operas or reality television. Some games, notably *The Sims*, serve this function for users.) Other motivations include compulsive activities (twitch responses, thrill seeking), education (ways to expand our knowledge or understanding), and training (learning or practicing specific real world tasks). Additionally, VEs can be useful for clinical psychology, helping people face and hopefully

conquer their fears, or for relaxing and escaping real-world stress.

There is of course no reason a VE can't simply tell a story. An excellent example of this is Josephine Anstley and Dave Pape's *The Thing Growing*. In this VE the user enters into an unwitting relationship with an abstract but believable character. A traditional dramatic structure in three acts takes the participant through a series of increasingly intense interactions with the central character, resulting in final choice that must be made which determines the final outcome of the story.

Most importantly, it is impossible to say that all concepts of virtual worlds have been explored already. The majority of VEs currently in existence concentrate on training, virtual tourism, or healing. There simply aren't enough successful VEs to be able to yet define any distinct or important genres.

While there may not be an abundance of genres being explored, there are a number of different ways to experience VEs, which include:

- for the story (diagetically)
- for the engagement (immersed in your own interaction for a non-narrative world or non-diagetically in a narrative one)
- for a vicarious experience as a spectator (e.g. you can ride on the shoulder of a shooter in the Quake game)

The distinction between these experiences depends on the content of the world as well as your viewpoint in that world. Most important, a valid experience by the user does not depend on whether or not a VE has a specific plot or even meaning. Gaming groups discuss campaigns (environments) that orient towards plot and those that focus on the world itself. One can even find these aspects as axes plotted against each other. (e.g. See http://www.darkshire.org/~jhkim/rpg/styles/campaign_axes.html) In the same respect, many VEs are deal with the world than a plot. They can be thought of more like cathedrals rather than narratives. The cathedral space exists for multiple purposes: social, spiritual or educational. You can explore the space, yet there is no one story assigned to it: The user has the opportunity to define his or her own story along the themes the creator specifies.

Purpose

The purpose of a VE dictates to some extent what a user's motivation should be. With purpose however comes the expectation of conventional conduct. In a training VE there is an expectation that lessons should be learned, and goals should be achieved. With the military, specific protocols are instilled into each soldier, which should never be sacrificed or broken. Soldiers enter virtual training scenarios with certain expectations that need to be met for the experience to be viable. For example, soldiers always travel with buddies and therefore never work alone. If this expectation is not met, then the VE becomes less immersive and as a result, less effective. Through proper research and implementation these constraints can be used as natural coercive elements in the environment. We will further discuss coercive elements in an upcoming section, but first we must look at a topic very related to purpose and protocol – that of playing a specific role within the VE.

4. ROLE-PLAYING

Role-playing is direct engaging both the physical and cognitive elements of our psyche. Anyone who enters into a virtual world is playing a role by default: that of a technologically savvy person, not afraid to enter into a technically mediated environment.

More importantly the user is also playing the role that is either implied or forced upon him by the VE. The current scenario I am working on casts the participant in the role of a lone reconnaissance scout deployed to check out a suspected rebel hideout. The goal is to locate the enemy and determine if they are responsible for a recent theft of weapons from a supposedly secure area of a local Army camp all without being noticed or caught. Immersion into this scenario, entitled *DarkCon*, is preceded by a brief verbal description of the user's role, as well as instructions to use a local culvert as a means to get close to the suspected enemy camp. The participant is also told that when they arrive in the prescribed area, they will certainly "remember" their orders. Once in the immersive environment, within the space of the aforementioned culvert, the participant is presented with a visual and aural "memory" of the commander giving the briefing that supposedly set this scenario in action. This "Memory Briefing" intends not only to provide detailed facts and figures, but also acclimate him to the state of affairs in this area of the world. To accomplish this images are presented alongside the commander's briefing session, which includes

contemporary images as well as scenes and memories from the past. This is meant to replicate the mind's ability to associate various memories with the current situation. An example would be images of helicopters from Viet Nam shown when the commander recites, "We will help in" and gives a specific location. This way we can combine recent and associative memories along with the critical information.



One frame of the DarkCon "Memory Briefing"

In order for participants to get the most out of the experience, ideally they will willingly play along with the role. But what if the person is at odds with that role? In the case of the SEE Project's DarkCon scenario we have received feedback from non-military civilians who were run through the demo. Some civilians felt the military commander shouting out orders, especially when juxtaposed with images of people suffering and war-torn surroundings, to be disturbing. The role of a military scout was too intense for them, while for others being part of the military simply did not fit into their belief system. Some people would have preferred, even in a scenario explicitly defined as a scouting mission, to be able to play different roles. Some wanted to see this world through the eyes of a refugee; while others thought it would be most helpful to be inside the mind of one of the suspected rebels. While these may not be the intended purpose of this particular training scenario, they are no less valid an experience and provide a unique look into the mind of specific users.

5. EXPECTATIONS

This dilemma brings us to the role of expectations in both the creator and the user. While the creator and the user both share in determining the reality of the environment, their expectations of that environment differ greatly.

The creator will generally be most concerned with what his work is trying to achieve; the user is trying to figure out what to expect from the experience. Hopefully, these expectations can complement each other, but suppose they don't? This is the challenge and the blessing of creating VEs: The user can experience the environment in ways that the creator never imagined. Once again, civilians were not the intended audience for the DarkCon training scenario, yet they can provide a valuable look into how different users will interpret the experience. Most did not fully understand the briefing, as it was filled with military jargon, yet all reported a substantial engagement with the environment. Their experience was nowhere near that of a trained soldier, but since their unique expectations were met, they enjoyed the experience nonetheless. Some completed the scenario in their own unique way, while others simply enjoyed the spectacle and detail of the environment. It may not have been the intention of the scenario, but it still "works" for civilian users regardless.

As a result, the boundary between author and user in interactive virtual worlds is blurring. While artists have become accustomed to this – what they intend in a painting or sculpture is not always what the viewer takes away from it – this is not so easily accepted by the technical teams on these projects. Generally, the less information presented to the viewer the more the experience becomes uniquely their own. VEs have traditionally strived for more detail and less interpretation, but this may not be as ideal a conclusion as first thought.

What do we expect from a virtual world? Looking at Char Davies works *Ephemere* and *Osmose* as examples helps explain the difference in user expectation and how it relates to their final impression of the experience.. If you had heard in advance that the artist intended these VEs to be somewhat spiritual works, then the lack of concrete imagery may not seem so odd. However, if you had not been given any indication of what to expect, would the world seem strange to you? This depends on a number of factors, including your previous life experiences (like if the user were a fan of abstract art) and how likely the person is to allow themselves to be caught up in the VE (to suspend their disbelief).

The proliferation of video games in our culture provides yet another interesting phenomenon. Game players come to expect that every object placed in a game world has been put there for a

purpose: Everything there is significant. Gamers approach VEs with the same expectations. This can be a difficult obstacle when developing a reconnaissance training simulation where selective observation becomes an important part of the experience. Not everything is important to the mission, and if the user becomes enamored with everything in the VE, much as a gamer would, the goal of prioritizing information is lost in favor of fascination with their surroundings. While the gamer mindset can be a drawback, thankfully we can also take advantage of it, as some aspects of games can be beneficial in VEs.

6. COERCIVE ELEMENTS

The use of the word coercive in this sense is to induce a desired behavior or response. Coercion exists in almost all forms of traditional media: from teaser clips on the nightly news that make you stay tuned through the commercials, to trailers for movies that convince you that you must see that film. However, because VEs are much more immersive and interactive, usually with less of a dramatic or defined story structure, we need to incorporate active ways of encouraging continued and desired participation in the user.

As VEs are environments of experience, they give you real control and choices. Coercive elements can help direct these choices to provide the best possible, and most predictable to the author, experience for the user. All coercive elements should flow effortlessly in the story, the experience or the world view. What we want to do is constrain *in context* the user's action through the environment.

Coercive elements have at least two basic functions: attraction or detraction. Additionally, there are neutral elements that corroborate the feeling or purpose of the world. Within these general areas, there are many types of elements that can be employed to create the desired response. These include:

- Time
- Sound
- Smell
- Movement
- Events
- Information
- Objects
- Design
- Interaction

- Characters (non-intelligent)
- Agents (intelligent)
- Other people (directorial, implied or live audience)
- Focus
- Corroborative Details

The following are some specific examples of these elements used in current VEs, including our work at ICT.

Time

To use *The Thing Growing* as an example, the narrative structure of three acts is imposed on the participant. ‘The primary catalyst for the transitions between acts is the expected actions taken within the world. However if these actions are not performed, the passage of time forces the end of one act and the beginning of the next.

In Davis’ *Osmose* and *Ephemere*, you have little interaction. In fact, except for navigating up and down and changing your viewpoint, there is little control. The scenes change on a predetermined time basis, taking you on a single path through specific visuals and sound.

Sound

Sounds can attract or repel: “Hmmm, I need to go see what that interesting noise is.” or “Whoa, that sounds dangerous; maybe I should head the other direction.”

In *DarkCon*, we use certain sounds to attract the scout to things that should be investigated. Specifically, the sound of a welding tool is extremely loud and draws the scouts’ attention in that direction. Additionally, the sound is spatialized to make it seem like it is coming from the area where a figure is working on a vehicle. Later on, shouts and the barking of an angry dog are used as detractors to move the scout back into hiding.

Smell

While this is not widely used in VEs yet, it may prove to be one of the most powerful coercive elements at our disposal. Because the human brain is wired to react to smells viscerally instead of cognitively, olfactory cues are much more difficult to ignore.

Movement

Our eye is drawn to movement: We are wired to pay attention to it. Visual stimuli that move, such as moving lights, people, or vehicles naturally draw attention. Value judgments about whether to approach or withdraw from these moving elements can then be made.

In the still night of *DarkCon* one of the few moving elements is the welder as he goes about his task. The combination of his movement and the pulsing light of his torch attracts the user to the scene.

Events

In the ICT Mission Rehearsal Exercise Project (MRE), an explosion down the street causes characters in the scenario, and hopefully the user, to look that way. A helicopter circling overhead also demands the user’s attention.

Information

When people desire more information they are more likely to be drawn to something that provides it. The Memory Briefing in *DarkCon* serves this purpose: without it the user is essentially lost in this dark and frightening place.

Objects

DarkCon uses a number of objects that demand attention. The splatter of blood on a wall attracts the users attention, providing support for the idea this is a dangerous place.

Interaction

Environments can be designed to be interactive so as to require the user to provide some input to move the narrative along. Interaction is a coercive element in and of itself because these interaction and the pending result are inherently engaging. However, the interaction must happen intuitively or else the nature of these elements breaks from the sensibility of the virtual world. This relates back to our human desire to be active participants in our environment. Being able to decide where we want to go, what we want to look at, what we decide to pick up, whom we want to talk to, and whether to proceed or retreat is a valuable resource for making immersive virtual environments highly engaging.

Interaction also appeals to our natural desire to discover. Reading a book contains elements of this: turning each page is a process of mental exploration and discovery, usually (but not always) in a linear fashion. What make interactivity in a VE so compelling is that it allows the user to explore the environment in a non-linear fashion, only relying on

certain triggers to influence the narrative direction of the experience.

Reactive worlds are much more coercive than static environments, which adds to believability as well. If the user trips on a rock in their path, or makes noise and gets discovered, they will feel more physically present than if these effects do not have any consequence.

Characters (non-intelligent)

An angry crowd in the MRE Project is useful as a detractor, while a cameraman who walks into the scene can modify behavior of the young lieutenant who knows what he does may appear on tonight's news worldwide.

Agents (intelligent)

Agents are inherently coercive due to their high levels of interactivity. In *The Thing Growing*, the main character cajoles and pleads with you; derides and tries to strike bargains.

Other people (directorial, implied or live audience)

In *The Thing Growing*, a voice over prompts the participant to complete certain tasks. In Brenda Laurel's *Placeholder*, participants were coerced by an outside director (Laurel herself) who inserted suggestions and taunts into the space shared by two participants.

In Mel Slater's work on audience phobias he provides virtual audiences to listen to patients practicing public speaking. An audience may be attentive, bored or outright rude, forcing the speaker to face that which they fear most. "To elicit social phobic response VE must maintain the illusion that there are other intelligent beings there capable of observing and reacting to the individual." [4]

Corroborative Details

VR worlds tend to be fairly barren spaces, with little extraneous information. However, we are accustomed to this extra detail in real life and unconsciously miss it in the virtual world. While not coercive per se, it is this type of details that breathes life into the virtual space. In *DarkCon* we use detritus in the culvert, lots of flora such as bushes, and typical night sounds to simulate a level of detail consistent with that of the real world. Clive Fencott calls such details *Sureties* – "mundane details that are somehow highly predictable", but nonetheless make the VE seem more like the real world." [5]

Focus

This is an area we have not yet implemented but that could be quite useful. The idea is that once we get a participant to look in a certain direction through other coercive means, we can then defocus the areas we don't want him to look at, thus forcing his attention on the spot of importance.

Iterative Design Process

Our DarkCon scenario applies many of these ideas into practice. There is an overall "mission" associated with this scene: it is that of a reconnaissance trip to gather information, which provides a purpose. In the scenario we are cast as a scout on a recon mission and come to accept that role over time, integrating elements of role playing. The details of the mission are revealed once the participant enters the virtual environment via the Memory Briefing construct described earlier.

Sometimes however, even an element as carefully crafted as the Memory Briefing can have unexpected results. A military visitor to a very early version of DarkCon took his mission so seriously that he totally ignored the Memory Briefing, rushing through the straight tunnel to better cover outside. The reality of the recon mission and his position in that environment overrode any inclination he might have had to stay and watch the Briefing. He explained later that he felt like a target that could be seen from either end of the tunnel, which resulted in his speedy exit. As a result, we added twists and turns and alcoves to the culvert, so anyone in it would be less visible to the outside world. Such an iterative design process is invaluable during the building of these environments as it is difficult to predict responses in advance. This is helping us to refine the coercive elements so they are more effective.

A different kind of story

As I mentioned, my use of narrative in VEs is a loose interpretation of the term, which is closer to reality than any structured story space. The story is instead latent in the environment. If I go to Cairo, the environment itself is enough to keep me entertained. The story of my journey comes later, when I tell others what my experiences were.

In the computer game *The Sims*, you exert control over characters, helping them make decisions to live their lives. But the real stories come after the game is played for a time. Users create attachments to their characters and their unfolding lives, taking

snapshots of events as they occur and placing these on websites as “albums” that tell many stories about the family groupings and their experiences.

Similarly, in the DarkCon scenario, the story also comes after the experience, when the scout reports back on what he has observed. This may be the true or “native narrative” of virtual environments. The user’s memory of the experience structures personal stories in retrospect.

7. EMERGING GRAMMAR

Coercive narrative constructs can be thought of as elements of an emerging immersive grammar. We can draw the obvious parallels to the early years of film. Anything was great; just having motion was amazing, and novelty was more important than content. Then slowly, content took over. Innovators began trying things that seemed radical at first: moving the camera, designing the frame. Now we have widely agreed upon constructs. A close up shot of a character, for example, makes you focus on what’s going on inside that character.

In early VR anything was great. We didn’t care why we in these worlds, It was enough to be there. Now we are more sophisticated. We don’t want to just wander around these environments. We want to know why we are there so we can devise our own meaning from our experience.

Who knows what will ultimately develop in immersive worlds? The digital D. W. Griffiths are just coming onto the scene. Who will do the first “teleport cut”? Will that seem as unsettling to people as the first moving pan shots used on MTV, which are now found in feature films like Moulin Rouge? Maybe it will seem weird the first time, but eventually we’ll do a teleport cut (port-cut) and people will get it. Let’s try it!

8. CONCLUSIONS

The thoughts in this paper are preliminary sketches of what we think may be possible to provide more structure in the design of VEs. As we continue work on our project we will refine these ideas and report on the validity of these concepts. It may take years before we are able to predict how to develop a true narrative structure in Virtual Environments, but the research and experimentation we do in the process will be imperative to the success and validity of these environments in the future.

REFERENCES

[1] Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media*, Cambridge, Massachusetts, MIT Press, 2000.

[2] Janet Murray, *Hamlet of the Holodeck: The Future of Narrative in Cyberspace*, New York, The Free Press, 1997.

[3] Brenda Laurel, *Computers as Theater*, Reading Massachusetts, Addison-Wesley, , 1991.

[4] Mel Slater, "Co-Presence as an Amplifier of Emotion", 2nd International Workshop on Presence, University of Essex, April 1999, <http://www.essex.ac.uk/psychology/tapestries/>.

[5] “Content and Creativity in Virtual Environment Design”, Clive Fencott; presented at the 5th International Conference on Virtual Systems and Multimedia; September 1999, Dundee, Scotland, U.K., <http://wheelie.tees.ac.uk/users/p.c.fencott/vsmm99/>